CLAIMS

1. A thrust sliding bearing comprising:

an upper annular body having an annular surface; and

a lower annular body having an annular surface opposing the annular surface of said upper annular body and superposed on said upper annular body so as to be rotatable about an axis of said upper annular body;

the annular surface of one of said annular bodies being formed of a synthetic resin and being flat, a closed recess surrounded by synthetic resin-made projections abutting slidably against the annular surface of said one annular body being formed in the annular surface of another one of said annular bodies, and a fluid being adapted to be filled in said closed recess.

2. The thrust sliding bearing according to claim 1, wherein a thrust load is received by said projections and the fluid filled in said closed recess.

3. The thrust sliding bearing according to claim 1 or 2, wherein said projections are adapted to abut against the annular surface of said one annular body in such a manner as to be flexurally deformed under a thrust load so as to make the fluid filling capacity of said closed recess small.

4. The thrust sliding bearing according to any one of claims 1 to 3, wherein said projections are adapted to abut against the annular surface of said one annular body in such a manner as to be flexurally deformed under a thrust load so as to cause the fluid in said closed recess to generate internal pressure by making the fluid filling capacity of said closed recess small.

5. The thrust sliding bearing according to any one of claims 1 to 4, wherein said closed recess is surrounded by said projections such that an area of said closed recess

opposing the annular surface of said one annular body is greater than an area of said projections which slidably abut against the annular surface of said one annular body.

6. The thrust sliding bearing according to any one of claims 1 to 5, wherein said closed recess is surrounded by said projections such that an area of the fluid contacting the annular surface of said one annular body is greater than an area of said projections which slidably abut against the annular surface of said one annular body.

7. The thrust sliding bearing according to any one of claims 1 to 6, wherein said projections include at least an inner annular projection located on an inner peripheral side and an outer annular projection located radially outwardly of said inner annular projection and disposed concentrically with said inner annular projection.

8. The thrust sliding bearing according to any one of claims 1 to 6, wherein said projections include at least an inner annular projection located on an inner peripheral side, an outer annular projection located radially outwardly of said inner annular projection and disposed concentrically with said inner annular projection, and a plurality of radial protrusions extending radially and connected to respective ones of said inner annular projection and said outer annular projection.

9. The thrust sliding bearing according to any one of claims 1 to 8, wherein said annular bodies are formed of a synthetic resin.

10. The thrust sliding bearing according to any one of claims 1 to 9, wherein said annular bodies are formed of a synthetic resin including at least one of polyacetal resin, polyamide resin, polyester resin, polyolefin resin, polycarbonate resin, and fluororesin.

11. The thrust sliding bearing according to any one of claims 1 to 9, wherein said one annular body is formed of polyacetal resin, and said projections or said other annular body including said projections are formed of a synthetic resin including at least one of polyamide resin, polyolefin resin, and fluororesin.

12. The thrust sliding bearing according to any one of claims 1 to 11, wherein said upper annular body at a radially outer peripheral edge portion thereof is adapted to be resiliently fitted to said lower annular body at a radially outer peripheral edge portion of said lower annular body.

13. The thrust sliding bearing according to any one of claims 1 to 12, wherein the fluid includes at least one of grease and lubricating oil.

14. The thrust sliding bearing according to any one of claims 1 to 12, wherein the fluid is silicone-based grease.

15. The thrust sliding bearing according to any one of claims 1 to 14, wherein a labyrinth is formed between said annular bodies in at least one of radially outer peripheral edge portions and inner peripheral edge portions of said annular bodies.

16. The thrust sliding bearing according to any one of claims 1 to 15, wherein said projections are formed on the annular surface of said other annular body integrally with said other annular body, and said other annular body including said projections is integrally formed.

17. The thrust sliding bearing according to any one of claims 1 to 16, wherein said other annular body has an annular member and an annular piece disposed between said annular member and said one annular body rotatably about an axis of said one annular body with respect to said one annular body, and the annular surface opposing the synthetic resin-made annular surface of said one annular body is formed on said annular piece, said projections being formed integrally on the annular surface.

18. The thrust sliding bearing according to claim 17, wherein said annular member and said annular piece are formed of a synthetic resin.

19. The thrust sliding bearing according to any one of claims 17 or 18, wherein said annular member and said annular piece are formed of a synthetic resin including at

least one of polyacetal resin, polyamide resin, polyester resin, polyolefin resin, polycarbonate resin, and fluororesin.

20. The thrust sliding bearing according to any one of claims 17 to 19, wherein said annular member is formed of polyacetal resin, and said annular piece is formed of a synthetic resin including at least one of polyamide resin, polyolefin resin, and fluororesin.

21. The thrust sliding bearing according to any one of claims 17 to 20, wherein said annular piece has another annular surface on a reverse side of the annular surface opposing the annular surface of said one annular body, and said annular member has a synthetic resin-made flat annular surface opposing the other annular surface of said annular piece, wherein another closed recess surrounded by synthetic resin-made other projections integrated with said annular piece and abutting slidably against the annular surface of said annular member is formed in the other annular surface of said annular piece, another fluid being adapted to be filled in said other closed recess.

22. The thrust sliding bearing according to claim 21, wherein a thrust load is received by said other projections and the other fluid filled in said other closed recess.

23. The thrust sliding bearing according to claim 21 or 22, wherein said other projections are adapted to abut against the annular surface of said annular member in such a manner as to be flexurally deformed under a thrust load so as to make the fluid filling capacity of said other closed recess small.

24. The thrust sliding bearing according to any one of claims 21 to 23, wherein said other projections are adapted to abut against the annular surface of said annular member in such a manner as to be flexurally deformed under a thrust load so as to cause the fluid in said other closed recess to generate internal pressure by making the fluid filling capacity of said other closed recess small.

25. The thrust sliding bearing according to any one of claims 21 to 24, wherein said other closed recess is surrounded by said other projections such that an area of said other closed recess opposing the annular surface of said annular member is greater than an area of said other projections which slidably abut against the annular surface of said annular member.

26. The thrust sliding bearing according to any one of claims 21 to 25, wherein said other closed recess is surrounded by said other projections such that an area of the other fluid contacting the annular surface of said annular member is greater than an area of said other projections which slidably abut against the annular surface of said annular member.

27. The thrust sliding bearing according to any one of claims 21 to 26, wherein said other projections include at least another inner annular projection located on an inner peripheral side and another outer annular projection located radially outwardly of said other inner annular projection and disposed concentrically with said other inner annular projection.

28. The thrust sliding bearing according to any one of claims 21 to 26, wherein said other projections include at least another inner annular projection located on an inner peripheral side, another outer annular projection located radially outwardly of said other inner annular projection and disposed concentrically with said other inner annular projection, and a plurality of other radial protrusions extending radially and connected to respective ones of said other inner annular projection and said other outer annular projection.

29. The thrust sliding bearing according to any one of claims 21 to 28, wherein said annular member is formed of polyacetal resin, and said annular piece and said other projections are formed of a synthetic resin including at least one of polyamide

resin, polyolefin resin, and fluororesin.

30. The thrust sliding bearing according to any one of claims 21 to 29, wherein the other fluid includes at least one of grease and lubricating oil.

31. The thrust sliding bearing according to any one of claims 21 to 29, wherein the other fluid is silicone-based grease.

32. The thrust sliding bearing according to any one of claims 21 to 31, wherein said upper annular body at a radially outer peripheral edge portion thereof is adapted to be resiliently fitted to said annular member at a radially outer peripheral edge portion of said annular member.

33. The thrust sliding bearing according to any one of claims 17 to 20, wherein said annular piece has another synthetic resin-made flat annular surface on a reverse side of the annular surface opposing the annular surface of said one annular body, and said annular member has a synthetic resin-made flat annular surface opposing the other annular surface of said annular piece, wherein the other flat annular surface of said annular piece slidably abuts against the flat annular surface of said annular member.

34. The thrust sliding bearing according to any one of claims 17 to 33, wherein a labyrinth is formed between said upper annular body and said annular member in at least one of radially outer peripheral edge portions and inner peripheral edge portions of said upper annular body and said annular member.

35. The thrust sliding bearing according to any one of claims 1 to 34 for use in a strut-type suspension in a four-wheeled vehicle.

36. The thrust sliding bearing according to claim 35, wherein said one annular body is one of an upper casing and a lower casing, and said other annular body is another one of said upper casing and said lower casing.

37. The thrust sliding bearing according to claim 35, wherein said one annular

body is an upper casing, and said other annular body is constituted by a bearing piece and a lower casing.

38. The thrust sliding bearing according to claim 35, wherein said one annular body is a lower casing, and said other annular body is constituted by a bearing piece and an upper casing.